APPENDIX C

Modular Open System Approach (MOSA) Implementation Assessment Questions

The following questions are intended for use by program managers to conduct a self-assessment of MOSA implementation in their programs. These questions are representative of the actual questions used in the MOSA Program Assessment and Review Tool (PART), which is an automated analytical tool that relies on objective data evidence-based judgments to assess and evaluate MOSA implementation. The MOSA PART is a permutation of the OMB Program Assessment Rating Tool (PART), which is a questionnaire designed to provide a consistent approach to rating programs across the Federal government. The MOSA PART can be found on the Open Systems Joint Task Force website at http://www.acq.osd.mil/osjtf.

Please use the suggested scale and indicate the extent to which each of the following applies to your program:	**Not Applicable**	**No Extent**	**Little Extent**	**Some Extent**	**Moderate Extent**	**Large Extent**	**Very Large Extent**
Section A: Business Indicators							
Section A1: Program Management							
1. To what extent has the program documented its implementation of MOSA as part of its overall acquisition strategy?							
2. To what extent has the program prepared a plan (e.g., roadmap) for implementing MOSA?							
3. To what extent has the program established metrics to gauge the progress toward MOSA implementation?							
4. To what extent is the program MOSA based on standardized system engineering principles and processes (e.g. EIA 632, IEEE 1220, ISO 15288)?							
5. To what extent does the program use well-defined roles and responsibilities for implementing MOSA?							
6. To what extent does the program staff have sufficient relevant open systems concept experience and expertise?							
7. To what extent has the program allocated resources for open system implementation?							
8. To what extent does the program employ an integrated team approach (e.g., IPT; IPPD) to plan and implement MOSA?							
9. To what extent does the program change management process include interface management?							
10. To what extent are barriers/obstacles toward MOSA implementation identified and removed?							

	Not Applicable	No Extent	Little Extent	Some Extent	Moderate Extent	Large Extent	Very Large Extent
Section A2: Requirements and Acquisition Management							
1. To what extent did the program conduct requirements analysis to ensure that they do not impose design specific solutions?							
2. To what extent have system level functional and performance specifications been refined or modified to facilitate open systems design?							
3. To what extent do program documents (e.g. acquisition strategy; CDD) leverage MOSA to achieve the following objectives:							
a. affordable system development?							
b. affordable system sustainment?							
c. an adaptable, flexible and evolutionary system?							
d. ease of integration?							
e. vendor and technology independence?							
f. insertion of new commercial technology?							
g. reuse and commonality of products?							
h. interoperability?							
4. To what extent does the program business case analysis (e.g., cost/benefit analysis, market research findings, etc.) lead to the selection of a modular design approach?							
5. To what extent do the program contracts require:							
a. the system design be based on modular design?							
b. the system design be characterized by a standards-based architecture?							
c. suppliers to choose commercially supported specifications and standards for key interfaces?							
d. validation of open systems implementation and conformance to selected standard profiles?							
e. a plan for migrating from systems interfaces that are proprietary or closed to open interfaces?							

	Not Applicable	No Extent	Little Extent	Some Extent	Moderate Extent	Large Extent	Very Large Extent
Section B: Technical Indicators							
Section B1: Modular Design Questions							
1. To what extent does the program base its system architecture on related industry or standard reference models and architectural frameworks?							
2. To what extent does the program modular design approach:							
a. Enable ease of change?							
b. Achieve technology transparency?							
c. Mitigate the risk of technological obsolescence?							
3. To what extent does the program functional analysis and allocation result in application of a modular open systems design?							
4. To what extent does the program functional analysis and allocation partition the system into:							
a. Self-contained modules?							
b. Functionally cohesive modules?							
c. Decoupled groupings of interchangeable modules?							
d. Adaptable modules?							
5. To what extent does the program use a rigorous and disciplined mechanism to define system modules and interfaces?							
6. To what extent do modular partitions enable the program to use similar components from other programs or from the commercial sector?							
Section B2: Key Interface Questions							
1. To what extent does the program select or designate selected interfaces as key?							
2. To what extent are external interfaces designated as key interfaces?							
3. To what extent does key interface selection criteria include:							
a. Criticality of function?							
b. Ease of integration?							
c. Change frequency?							
d. Interoperability?							
e. Commonality?							
4. To what extent has the program developed verification and validation testing mechanisms to assure that key interfaces conform to selected standards?							

	Not Applicable	No Extent	Little Extent	Some Extent	Moderate Extent	Large Extent	Very Large Extent
Section B3: Open Standards Questions							
1. To what extent does the program assess the feasibility of using open standards for key interfaces?							
2. To what extent does the program use a standards selection process that gives preference to open interface standards?							
3. To what extent is the selection of interface standards based on well-defined criteria and priorities?							
4. To what extent are the key interfaces within the system defined by open standards?							
5. To what extent has the program specified (documented) the specific options or extensions of the design's selected standards?							
6. To what extent are the selected standards verifiable through testing?							
7. To what extent does the program use testing or other mechanisms to verify claims made by vendors that their products comply with the selected standards?							
8. To what extent can alternate products from multiple sources be substituted in modules with open interfaces?							